

We claim:

1. An apparatus for collecting and sensing light in a projector, comprising:  
a primary mirror positioned directly in the incident light path from a lamp and  
5 illumination optics of said projector for reflecting a large portion of visible light  
towards a light imaging device while transmitting a small portion of said of visible  
light;  
a secondary mirror for reflecting said small portion of said visible light;  
an integrating box positioned to collect and integrate said small portion of  
10 visible light; and  
an electro-optic device for measuring said small portion of visible light and  
generating an electrical signal in response thereto.
2. The apparatus of claim 1, further comprising a light tube in optical  
15 communication with said integrating box for further integrating and attenuating said  
small portion of visible light.
3. The apparatus of claim 1, wherein said integrating box contains an optically  
diffuse inner surface integrating said small portion of visible light.  
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4. The apparatus of claim 3, wherein said optically diffuse inner surface is white  
in colour.
5. The apparatus of claim 1, wherein said integrating box is constructed of metal  
25 in order to provide a radiation shield.
6. The apparatus of claim 1, wherein said primary mirror is a cold mirror.
7. The apparatus of claim 1, wherein said secondary mirror is a cold mirror.  
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8. The apparatus of claim 1, wherein said secondary mirror is sufficiently large  
to capture approximately 10%-50% of the illumination light area provided by said  
small portion of said visible light reflected by said primary mirror.

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9. The apparatus of claim 2, wherein said light tube contains an IR rejecting plastic for diffusing said small portion of visible light from an inner surface thereof.

10. The apparatus of claim 9, wherein said light tube is constructed from metal to shield said electro-optical device from radiation

11. The apparatus of claim 1, wherein said integrating box and said light tube are optically connected by a hollow fitting.

12. The apparatus of claim 11, wherein said hollow fitting further includes a calibrating screw for calibrating said electro-optic device.

13. The apparatus of claim 1, wherein said primary mirror transmits less than approximately 4% of said visible light.

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